

REMARKS

This communication responds to the Office Action mailed on June 25, 2008. Claims 15, 17-20, 22, and 24-28 are amended, no claims are canceled, and no claims are added. As a result, claims 15-28 are now pending in this application.

It is respectfully noted that the amendment of claims 17-20, 22, and 24-28 have been made to expedite prosecution, and not for reasons related to patentability in response to any rejection.

§103 Rejection of the Claims

Claims 15-17 and 20-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McCorkle (U.S. Patent No. 7,006,553) in view of Seitz (U.S. Patent No. 5,657,244), Linares (U.S. Patent No. 6,760,487), and Rawcliffe (U.S. Publication No. 2002/0144619). Claims 18-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McCorkle in view of Seitz, Linares, and Rawcliffe as applied to claim 15 above, and further in view of Mitra (U.S. Patent No. 6,867,727). Claims 22-24 and 26-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McCorkle in view of Rawcliffe. Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over McCorkle in view of Rawcliffe as applied to claim 22 above, and further in view of Mitra. Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over McCorkle in view of Rawcliffe as applied to claim 22 above, and further in view of Limberg (U.S. Patent No. 5,461,426).

The Applicant does not admit that these cited references are prior art, and reserves the right to swear behind these references in the future. In addition, since a *prima facie* case of obviousness has not been established, the Applicant respectfully traverses this rejection.

The Applicable Law

As discussed in *KSR International Co. v. Teleflex Inc. et al.* (U.S. 2007), the determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on factual evidence. See *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 7, 1336-37 (Fed. Cir. 2005). The legal conclusion, that a claim is obvious within § 103(a), depends on at least four

underlying factual issues set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17 (1966): (1) the scope and content of the prior art; (2) differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art; and (4) evaluation of any relevant secondary considerations.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). To establish a *prima facie* case of obviousness, three basic criteria should be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d, 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Not all elements of amended claims 15 and 22 are found in the references as arranged.

For example, now amended claim 15 reads as follows (with emphasis added):

15. (Currently Amended) A radar unit, comprising:
an antenna;
an arbitrary waveform generator to issue an arbitrary radar waveform signal at a given pulse repetition frequency, the arbitrary waveform generator being adapted to adjust the phase of the radar waveform signal as a function of a phase adjustment signal;
a transmit amplifier coupled to the antenna;
a receive unit coupled to the antenna to receive a Doppler spectrum;
a 2D filter to generate associate values of radar response and coordinate data;
a noise predictor coupled to the receiver for receiving at least one prevalent radio frequency interference;
a demodulation and decoding bank comprising known information on the modulation and coding principle of the prevalent radio frequency interference signal, the radio frequency interference signal typically operating according to a predetermined refresh frequency at which redundant information is repeated;
said noise predictor operative to receive, demodulate and decode the information content of the at least one radio frequency interference signal, wherein:
the arbitrary wave generator is adapted for generating pulse-compressed chirps, and wherein the arbitrary wave generator is synchronized with the at least one radio frequency interference signal, whereby,

the arbitrary wave generator is controlled to produce an overall radar pulse composed of at least a first segment and a second segment whose time/frequency rates may differ from one another,

whereby the overall radar pulses vary from pulse to pulse such that for the coinciding frequency of the at least one radio frequency interference signal, the time between radar pulses is an integer divisor of the periodicity of the at least one radio frequency interference signal.

McCorkle (which has been relied upon by the Office Action when rejecting original claim 15) is related to separation of narrow band interference in a UWB radar application based on model assumptions of the backscattering scene. In this solution only one radar pulse towards a discrete target is observed based on an a priori assumption of the transmitted signal. The interference signal of McCorkle must be narrow band.

However, McCorkle fails to disclose the features of “**a receive unit to receive a Doppler spectrum**” and “**the arbitrary wave generator is synchronized with the at least one RFI signal**” as recited in amended independent claim 15. As such, the Applicant respectfully submits that amended independent claim 15 is not rendered obvious over McCorkle as asserted by the Office Action.

In addition, no combination of other references remedies this deficiency of McCorkle. The main features of other cited reference as explained as follows:

Rawcliffe (“Proximity Fuse”): A simple frequency modulated continuous wave radar for proximity fuse applications.

Mitra, (“Multiplatform Multifunction Avionics Architecture”): Adaptive coding to counter a variety of situations involving e.g. broadcast interference for low frequency radar.

Linares (“Estimated Spectrum Adaptive and Iterative Prepost Filtering Algorithm”): Linares is concerned with reconstructing highly compressed JPEG images.

Seitz (“Distinguishing Power Line Arcing From RF emissions”): Notching arc generated impulsive signals in an ongoing radio reception.

Limberg (“Apparatus for Processing Modified NTSC Television Signals with Digital Signals Buried Therein”): Limberg provides a means for additional information (probably text) to an analogue television transmission by synchronizing to frame rate and reversing phase in between frame rates. The synchronization is achieved between "interference" and the transmit signal (if the additional information is the "interference") by adjusting the modulation of this

"interference" to fit the modulation of the television transmit signal. In radar it is the radar transmit signal which must be adjusted to fit the interference, and this is just as non-trivial as if the transmit television signal had to be adjusted to comply with some non-adaptive form of additional information, which had to be included.

It is noted that none of the other references (Rawcliffe, Mitra, Linares, Seitz, and Limberg) teaches or suggests the features of **"a receive unit to receive a Doppler spectrum"** and **"the arbitrary wave generator is synchronized with the at least one RFI signal"** as recited in amended independent claim 15. Thus, even combined, all the cited references do not teach or suggest each and every feature as arranged in amended independent claim 15, and thus do not rendered amended independent claim 15 obvious.

Actually, as none of the cited documents are concerned with the problem of the Application, there is absolutely no way for the skilled person to come up with the Application by combining these different documents addressing problems far from amended claim 15.

The above argument presented with respect to amended independent claim 15 also applies to amended independent claim 22, which has elements similar to amended independent claim 15. All dependent claims are also nonobvious, since any claim depending from a nonobvious independent claim is also nonobvious. See M.P.E.P. § 2143.03.

It is therefore respectfully requested that the rejection of claims 15-28 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

RESERVATION OF RIGHTS

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. The Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. The Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. The Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal

knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, the Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. The Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

CONCLUSION

The Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone the Applicant's representative at (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date

23 Dec '08

By



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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 23, 2008.

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